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THE THREAT OF NUCLEAR TERRORISM AND SEPTEMBER 11TH:

WAKE-UP CALL TO GET THE TREATIES RIGHT

LARRY D. JOHNSON*

There are two international treaties currently being drafted specifically on nuclear terrorism.¹ Both could require that specific measures be taken worldwide to protect and secure nuclear facilities from terrorist attack and sabotage; but neither one does. United States' efforts to include such requirements were thwarted by some of our closest "coalition" allies before September 11th. Now is the time to revive those efforts. September 11th should have taught us some important lessons.

LESSONS OF SEPTEMBER 11TH

The first lesson is that we can no longer assume that no one "in his right mind" would commit a terrorist act for fear of dying or being exposed to dangerous ionizing radiation. It is now clear that large numbers of people are more than willing to die as martyrs for a cause. This undercuts a presumption, which up to now, played a major role behind assessments of what is required to defend nuclear materials and facilities against terrorists and sabotage.

The second lesson is drawn from the first: so-called "dirty" bombs are now more plausible. We can no longer assume that a terrorist will be deterred by concerns of self-preservation in order to build or disperse a "dirty" bomb, a conventional explosive device designed to disperse radioactivity, whether as a result of radioactive material being made a part of the device, or it being made the target of the device. For example, a bomb directed at a nuclear reactor or a spent fuel pond where "used" but highly radioactive fuel rods are cooling is a "dirty" bomb. The effects of such a "dirty" bomb would not, of course, equal the devastation of exploding a nuclear device, but its effects would be psychological

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1. See Larry D. Johnson, *Lessons of 9/11 for the Protection and Security of all Radioactive Material*, Pacific Council on International Policy, at <http://www.pacificcouncil.org> (last visited Sept. 22, 2002).

and politically calamitous. In the town of Goiânia in Brazil, the rupture of a radioactive “source,” which had been used for medical purposes but carelessly discarded caused disruption, panic, several deaths, and hundreds of people, buildings, and large tracts of land to be contaminated.²

The third lesson is, what happens in other parts of the world can have a direct impact upon Americans’ safety and security. While we strive to make sure our own nuclear facilities are safe from theft or sabotage, a potential terrorist might well be able to obtain material through theft or illegal purchase in other countries for delivery to our doorstep. There are technical limitations in detecting nuclear material at border locations.³ For example, do we know how well the containers arriving at the Port of Newark are screened? The preventive approach calls for measures to make sure the material never leaves its place of origin, as we attempt to do with other material we do not want to enter the country.

Fourth, as far as terrorism treaties are concerned, they miss the mark. They focus on criminalizing the acts and punishing the terrorists, but only after the thief has let the horse out of the barn.⁴ In view of the nature of this beast – dangerous radioactive material – the point should be to make sure the thief does not get anywhere near the barn. Nuclear terrorism treaties should require specific measures of prevention to make it harder for would-be terrorists to commit acts of nuclear terrorism.

WHAT’S NEEDED?

Today, there are no binding preventive measures on the international level; each country is on its own. It is the responsibility of national governments to provide for protection and security as part of their “sovereign” rights and responsibilities.⁵ That does not fly after September 11th. Today, it is in our best interest to have countries thousands of miles away apply preventive measures to make it more difficult for terrorists to get their hands on this material and to inflict harm on others including our own citizens.

WHAT KIND OF “DANGEROUS” RADIOACTIVE MATERIAL ARE WE TALKING ABOUT?

In the past, treaties and international regulation have focused on certain radioactive material considered “dangerous” because it can be used to make nuclear weapons.⁶ Such “fissionable” material can start a chain reaction, which if

2. See INTERNATIONAL ATOMIC ENERGY AGENCY (IAEA), *THE RADIOLOGICAL ACCIDENT IN GOIÂNIA*, (Vienna 1988).

3. See Johnson, *supra* note 1.

4. Doug Cassel, *With UN Help, U.S. Has Tools for Pursuit; Desperately Seeking Osama*, CHICAGO TRIBUNE, Oct. 21, 2001, available at http://www.law.northwestern.edu/depts/clinic/ihr/issues/trib_terror1021011.htm (last visited Sept. 22, 2002).

5. Larry D. Johnson, *Treaties Against Nuclear Terrorism: The Global Legal Framework can Make a Difference*, IAEA Bulletin 44/1/2002, available at <http://www.iaea.or.at/worldatom/Periodicals/Bulletin/Bull441/article2.pdf> (last visited Sept. 23, 2002).

6. See Johnson, *supra* note 5.

uncontrolled would lead to a nuclear explosion.⁷ This material is highly enriched uranium and plutonium, which can also be used for peaceful purposes in nuclear power plants to produce a controlled chain reaction.⁸ It is this "nuclear material" that is the subject of various non-proliferation treaties and agreements.⁹ This material may be described in a non-technical way as "weapons-usable" radioactive material. The interesting thing is that such material, depending on the circumstances and the particular stage in the process, may or may not be particularly dangerous to your health.¹⁰

Other radioactive material is not fissionable and thus cannot be used to produce a nuclear explosion or weapon, but is nevertheless "dangerous" because the ionizing radiation it emits may do serious damage to your health. This kind of material is used, for example, in medicine and industry and is meant to be subject to strict national regulation.¹¹ Examples of this kind of radioactive material are cesium, cobalt, iridium and strontium.

From the point of view of a terrorist, both types of radioactive material have their attractions. Obviously, a terrorist might well try to get his hands on a nuclear weapon or on weapons-usable material to try to construct a crude bomb on the basis of the publicly available "cook books." But a terrorist might well also aim at obtaining the other radioactive material in an attempt to make a "dirty" bomb.

THE TREATY ASPECTS TO THE PROBLEM

The international community has, up to now, not looked at the two "dangerous" aspects of radioactive material in any comprehensive manner.¹² There are now two treaties currently being negotiated on aspects of nuclear terrorism, with some overlap between them; not exactly ideal. Both could include measures of prevention but both are woefully weak in that regard.

THE CONVENTION IN THE PHYSICAL PROTECTION OF NUCLEAR MATERIAL

The "Convention on the Physical Protection of Nuclear Material" (CPPNM)¹³ was adopted in 1980 under the auspices of the International Atomic Energy Agency (IAEA), the U.N.-related international "watch-dog" organization with technical expertise in the area of the peaceful uses of nuclear energy.¹⁴ The

7. *How Nuclear Bombs Work*, Marshall Brain's How Stuff Works, at <http://www.howstuffworks.com/nuclear-bomb3.htm> (last visited Sept. 22, 2002).

8. *Energy Fact Sheet*, Nuclear Fission, at <http://www.iclei.org/efacts/fission.htm> (last visited Sept. 22, 2002).

9. Treaty on the Non-Proliferation of Nuclear Weapons, March 5, 1970, U.N.T.S. no 10485, vol. 729, available at <http://www.unog.ch/disarm/distreat/npt.pdf> (last visited Sept. 22, 2002).

10. See Johnson, *supra* note 5.

11. *Id.*

12. See Johnson, *supra* note 1.

13. The Convention on the Physical Protection of Nuclear Material, Oct. 28, 1979, IAEA doc. INFCIRC/274/Rev.1 [hereinafter CPPNM].

14. *Profile of the IAEA*, at <http://www.iaea.org/worldatom/About/Profile/> (last visited Sept. 6,

CPPNM concerns only weapons-usable material and mandates a few preventive measures, but only during international transport.¹⁵ It also criminalizes various acts, such as theft and illegal acquisition, possession, and use of nuclear material while in storage or during transport, whether domestic or international.¹⁶ Otherwise, how countries protect and make secure their own nuclear material is left for them to decide, a matter of domestic sovereignty. Outside the framework of the CPPNM, the IAEA in 1999 published specific preventive measures, which States should take in order to protect nuclear material from theft and nuclear facilities from sabotage. They are even termed “requirements,” but in fact and in law are only recommendations.¹⁷ Such measures include, for example, the posting of guards and construction of barriers.¹⁸ A review process was started in 1999 to ascertain if and how the CPPNM could be strengthened.¹⁹ For a long time the Director General of the IAEA and various Governments held that the treaty is too limited and needs strengthening. Laudably, the U.S. initially proposed amending the Convention to make the 1999 IAEA recommendations binding. In addition, it proposed including in the Convention some form of review mechanism by which countries would be held accountable for what they do to protect and secure their nuclear material and facilities. While no public records of these meetings exist, there have been reports that these proposals were opposed by none other than some of our “grand coalition” partners against terrorism: the United Kingdom, France, Germany, and Belgium.²⁰

As a result of opposition, the U.S. agreed in May 2001 to a “package deal” at a meeting of experts held in Vienna.²¹ By the terms of that deal, the scope of the CPPNM was notionally expanded to cover domestic use, storage, and transport of nuclear material as well as sabotage of nuclear facilities. But no new specific preventive measures were required. Instead, broad “Objectives and Fundamental Principles” are to be included in the revised CPPNM. These are vague, general obligations without specifics. Examples of such “Objectives” are: “To protect against unauthorized removal of nuclear material in use and storage, and during transport,” and “[t]o investigate or minimize the radiological consequences of sabotage.” Examples of “Fundamental Principles” include “*Fundamental*

2002).

15. See CPPNM, *supra* note 16, at art. II para. 1.

16. See *Id.* at art. VII.

17. See The Physical Protection of Nuclear Material and Nuclear Facilities, Table of Contents, at http://www.iaea.org/worldatom/program/protection/inf225rev4/rev4_content.html (last visited Sept. 6, 2002); See also *Id.* at Preface [hereinafter Preface].

18. See *Id.* at Introduction. See also Requirements for Physical Protection Against Unauthorized Removal of Nuclear Material in Use and Storage, at http://www.iaea.org/worldatom/program/protection/inf225rev4/rev4_removal.html (last visited Sept. 6, 2002); See also Requirements for Physical Protection Against Sabotage of Nuclear Facilities and Nuclear Material During Use and Storage, at http://www.iaea.org/worldatom/program/protection/inf225rev4/rev4_sabotage.html (last visited Sept. 6, 2002).

19. George Bunn, *Raising International Standards for Protecting Nuclear Materials from Theft and Sabotage*, THE NONPROLIFERATION REVIEW, 154 (Summer 2000).

20. *Id.* at 152.

21. *Id.* at 152-154.

Principle A: Responsibility of the State. The responsibility for the establishment, implementation and maintenance of the physical protection regime within a State rests entirely with that State;" and "*Fundamental Principle I: Defense in Depth.* The State's requirements for physical protection should reflect a concept of several layers and methods of protection (structural or other technical, personnel and organizational) that leave to be overcome or circumvented by an adversary in order to achieve his objectives."²² Countries are left free to decide how to implement these "Objectives and Fundamental Principles", which basically are descriptive at best and a mere "wish list" at worst.

In fact, the May 2001 package deal went further and specifically excluded from future consideration the two most important proposed amendments: (a) making the 1999 preventive measures binding (or even taking note of them); and (b) establishing some sort of review mechanism.²³

That was pre-September 11th. In the light of the lessons learned from September 11th, the U.S. should revert to its earlier proposals and insist on the need to do so. Meetings of legal and technical experts are being held in Vienna at various times throughout 2002 to consider finalizing possible amendments.²⁴ Thus, the time to act is now.

THE DRAFT TREATY FOR THE SUPPRESSION OF ACTS OF NUCLEAR TERRORISM

In New York, the Legal Committee of the United Nations General Assembly has before it a draft treaty initially proposed by the Russian Federation on the suppression of acts of nuclear terrorism.²⁵ Contrary to the IAEA's CPPNM, this draft is focused on both kinds of radioactive material; both the "weapons-usable" material and other material, which can be dangerous to life and limb. It includes the usual criminalization provisions and a weak preventive measure, calling on countries to simply take into account IAEA recommendations on the protection of radioactive material.²⁶

After September 11th, the General Assembly should take a policy decision that binding preventive measures should be included in the treaty. The drafters must go beyond their focus on the suppression of criminal acts and the extradition/prosecution of perpetrators.

The next meeting at which the General Assembly is due to take up the issue is

22. See International Atomic Energy Agency General Conference document, *Nuclear Verification and Security of Material: Physical Protection Objectives and Fundamental Principles*, Sept. 14, 2001, IAEA doc. GC(45)/INF/14 Attachment, available at <http://www.iaea.org/worldatom/About/Policy/GC/GC45/Documents/gc45inf-14.pdf> [hereinafter General Conference].

23. *Id.*

24. *Id.*

25. See General Conference, *supra* note 29.

26. See Report of the Ad Hoc Committee established by General Assembly Resolution 51/210 of 17 December 1996, available at gopher://gopher.un.org/00/ga/docs/53/plenary/a53-37.en (last visited Sept. 6, 2002).

in September 2002.²⁷ The Assembly should task the Director General of the IAEA to submit draft preventive measures, which could be included as requirements in the treaty. What is important is that a policy decision be made by Governments to include such provisions in the treaty. The experts competent in the field would be instructed to come up with technically viable texts for Governments to examine and insert into the treaty.

ARGUMENTS FOR MAINTAINING THE STATUS QUO

Those against the position advocated above may argue that the package deal in the IAEA is a “done deal,” the “train has left the station,” and that we should not risk undoing the results already achieved. They may argue that an overly legal, treaty approach is too detailed, will take too much time, and disregards the technical complexities involved. Others might worry that if the treaty were too specific about preventive measures, it would reveal to would-be terrorists sensitive information on how security is maintained, which they could then try to circumvent. Another argument is that the U.S. and others are quietly, behind the scenes, already providing sufficient protection and security advice to a number of countries on a bilateral basis.

In reply to those who would argue we must stick to the pre-September 11th “package deal,” under the law of treaties commitments can be adjusted in the event of a fundamental change of circumstances (i.e., September 11th). Moreover, while sensitive security matters must indeed be kept from potential terrorists. But the 1999 IAEA recommendations are already public; making them binding has nothing to do with revealing secrets. Existing IAEA advisory missions on physical protection have not resulted in exposing sensitive matters. Bilateral measures may play a very important (if somewhat unknown) role in helping countries develop preventive measures but tools at the multilateral level should not be overlooked if we are engaged in comprehensive global efforts to combat terrorism.

There may be a legitimate concern that even if European coalition partners were to go along with binding preventive measures, certain nuclear powers such as China and Russia could still oppose them. It might be better to have consensus on broad generalities than to have meaningful preventive measure accepted by some but not all. But consensus is not the only test. Binding preventive measures adopted by the other States of the former Soviet Union would be valuable in and of itself, even if Russia were not immediately on board. Besides, Governments would be reluctant to be perceived as “hold outs” in the campaign against global terrorism.

WHAT IS NEEDED: POLICY-MAKERS FOCUSING ON THE ISSUE

One of the reasons the people of the United States established the Constitution in 1789 was to “provide for the common defense.” After September 11th, one

27. See Forthcoming General Assembly 57th Session: To Open on 10 September 2002, *available at* <http://www.un.org/ga/57/document57.htm> (last visited Sept. 6, 2002).

could reasonably assume that the U.S. public wants our government to take all possible and lawful measures to ensure that innocent civilians will never again be subjected to such attacks by fanatical, suicidal purveyors of death and destruction, and that all tools should be examined for use in that effort, including international treaties.

These are public policy matters requiring the attention of policy-makers who must be made aware of the problem, have options, weigh and balance the elements, make informed decisions, and give instructions to the technical and legal experts as to what the policy is. This is a matter of providing for the security and well-being not only of Americans, but also of basically everyone on the planet. It should be seen as part of the global campaign against terrorism, as well as of the homeland security effort.

It is time for policy-makers to focus on the treaty-making aspect of this campaign. The U.S. should go beyond "feel good" treaty amendments with no "bite". If the drafters of nuclear terrorism treaties ignore the lessons of September 11th, they do so at their, and our, peril.